



IMIA Telehealth WG23 2020 Report

presented as part of the IMIA VP WG & SIGs report:

- IMIA Board Meeting, November 22, 2020,
- IMIA General Assembly Meeting, December 6, 2020

Arindam Basu, Co-Chair (2019-2022)

Sriram Iyengar, Co-Chair (2019 - 2022)

Website: <https://imia-medinfo.org/wp/telehealth/>

For the 2020 report please provide details on the following:

(Due to the COVID -19 pandemic, IMIA acknowledges that many functions were cancelled, delayed and disrupted from January 2020 to the end of June 2020)

1. Brief Background- current mandate, historical background, etc.

Background

Goal: The IMIA telehealth group strives to be IMIA's key stakeholder and vehicle for advocacy and capacity building to use Informatics towards enabling as well as providing quality healthcare to areas outside the precinct of a medical establishment.

Vision: Engage the international health informatics community across sectors, to identify, explore, collaborate, and disseminate research on the use of technology to foster Telehealth.

Objective: Priority focus is on (1) Remote support for healthcare provision in low resource areas - which include developing countries as well as unreached populations and tribal communities even in developed societies. (2) Assistance of community based services - important both for service delivery as well as data collection for health planning. (3) Home based care and personalized medicine. The current team took over in 2010 with a completely fresh set of members when the WG was about to be disbanded. Our membership has risen over the years to 94, increasing by 35 from 2019.

2. Achievements - Events and projects conducted and publications completed

Journal article (published)

Kuziemsy CE, Hunter I, Gogia SB, Iyengar S, Kulatunga G, Rajput V, Subbian V, John O, Kleber A, Mandirola HF, Florez-Arango J, Al-Shorbaji N, Meher S, Udayasankaran JG, Basu A. Ethics in Telehealth: Comparison between Guidelines and Practice-based Experience -the Case for Learning Health Systems. *Yearb Med Inform.* 2020 Aug;29(1):44-50. doi: 10.1055/s-0040-1701976. Epub 2020 Apr 17. PMID: 32303097; PMCID: PMC7442533.

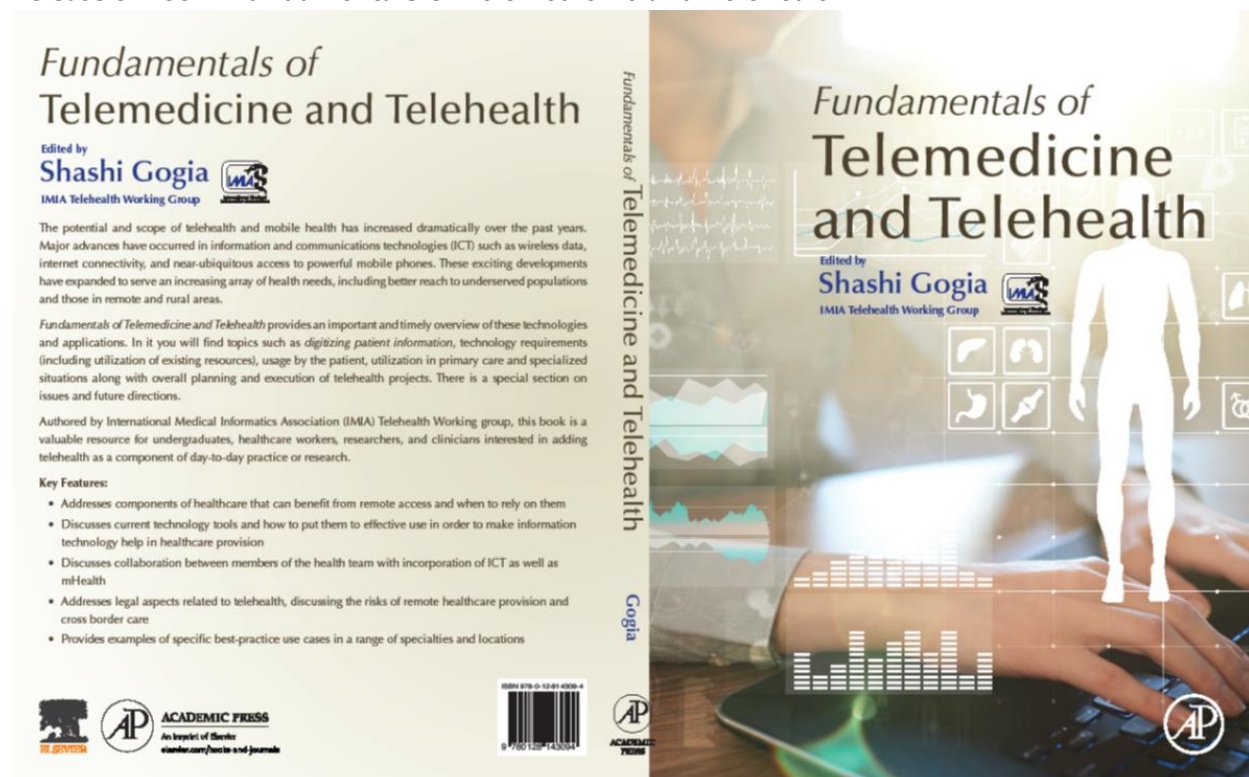
Eccles H, Nannarone M, Lashewicz B, Attridge M, Marchand A, Aiken A, **Ho K**, Wang J. Perceived Effectiveness and Motivations for the Use of Web-Based Mental Health Programs: Qualitative Study. *J Med Internet Res.* 2020 Jul 31;22(7):e16961. doi: 10.2196/16961. PMID: 32735216

Hyman A, Stewart K, Jamin AM, Novak Lauscher H, Stacy E, Kasten G, **Ho K**. Testing a school-based program to promote digital health literacy and healthy lifestyle behaviours in intermediate elementary students: The Learning for Life program. *Prev Med Rep.* 2020 Jun 18;19:101149. doi: 10.1016/j.pmedr.2020.101149. eCollection 2020 Sep. PMID: 32670779

Tsoi KKF, Chan NB, Yiu KKL, Poon SKS, Lin B, **Ho K**. Machine Learning Clustering for Blood Pressure Variability Applied to Systolic Blood Pressure Intervention Trial (SPRINT) and the Hong Kong Community Cohort. *Hypertension.* 2020 Aug;76(2):569-576. doi: 10.1161/HYPERTENSIONAHA.119.14213. Epub 2020 Jun 29. PMID: 32594794

Mangalji A, **Ho K**, Choi W, Kim Sing C, Lindsay H, Lee CW, Loftsgard K, Lim M, Jafari N. Uncovering Care Barriers Experienced by Patients and Loved Ones in the Emergency Department: Can a Health App Help? *Stud Health Technol Inform.* 2020 Jun 16;270:1417-1418. doi: 10.3233/SHTI200470. PMID: 32570687

Release of Book- '*Fundamentals of Telemedicine and Telehealth*'



A formal launch of the above book published by Elsevier Inc, took place during Medinfo 2019 in Lyon, France, This book is an official contribution by IMIA Telehealth WG members with active contributions

by 52 authors across the globe working jointly over the past three years. It was an attempt to mainstream telehealth. It's release was extremely timely and helped various practitioners to adopt Telehealth in their day to day work as response to the COVID threat.

During the Covid period -the group did intensive lobbying to get the book price of USD 99 waived off completely for a full 6 months starting April 2020.

3. Describe WG/SIG Participation - Engagement and participation in IMIA and health informatics events and activities in the past year

Special Session and Panel Discussion on TeleHealth for Non Communicable Diseases in the era of Augmented Intelligence, Medinfo 2019, Lyon.

Chair(s): Oommen John

Panelists: Marcia Ito, Shashi Bhushan Gogia, Ramesh Krishnamurthy

In 2020, due to the COVID-19 pandemic, face to face interactive meetings were not possible to be organized. The working group had organized three Zoom based online meetings in April, May, and June to discuss the various projects. Several members of the working group members also contributed to the IMIA joint document.

The following listing details the contribution of the working group members academically towards development of telemedicine and telehealth (for details, see URL:

<https://docs.google.com/document/d/1xRyjULweUD4G2LZkFtFY8QgfZL-VAukeddXa2nJ7WYg/edit?usp=sharing>

Arindam Basu, arindam.basu@canterbury.ac.nz,

- Wrote and edited sections on the IMIA position paper on Telehealth practices during COVID19, July-Now, 2020
- Is currently leading as a Principal Investigator a research project at the University of Canterbury investigating how clinicians negotiated online based clinical interviews during the lockdown period in New Zealand, August 2020 – ongoing
- Organised, called, and participated in the Zoom based videoconferences for the IMIA Telehealth working group”, April-June 2020 (ongoing)

Sriram Iyengar, msiyengar@arizona.edu

- Wrote and edited sections on the IMIA position paper on Telehealth practices during COVID19, July-Now, 2020
- Published 5 peer-reviewed journal papers on mHealth research in Low and middle income countries
- Submitted two NIH proposals. One on mHealth in cancer care and another on smoking cessation in India
- COncceptualized and participated in the design of AZCovidTxt, a bidirectional system providing SMS messages on COVID-19 pandemic and gathering data on effects of pandemic on people in Arizona, USA.

Vije Kumar Rajput, vije@stonydelphmedical.com,

- Adoption of remote digital stethoscope in primary care, August 2020
- Primary care video consultations
- Committee member of the Primary Health Care Specialist Group of the British Computing Society.
- Presentation and publication: Fashioning change in health care: the adoption and assimilation of technology. RAJPUT, Vije Kumar; CROPPER, Steve (2019). Preventing Overdiagnosis, Sydney, December 2019. https://ebm.bmj.com/content/24/Suppl_2/A46.2
- Presentation and publication: Multicriteria Decision Support would avoid OverDiagnosis and

Treatment. RAJPUT, Vije Kumar; DOWIE, Jack; KALTOFT, Mette Kjer; (2020). Presentation due EFMI STC2020, Finland, 27 November 2020. Studies in health technology and informatics (published version in November).

- Publication: Ethics in telehealth: comparison between guidelines and field experience – the case for learning health systems. Kuziemsky, C; Hunter, I; Gogia, B; Iyenger, S; Kulatunga, G; Rajput, V; Subbian, V; John, O; Kleber, A; Basu, B; Florez-Arango, J; Al-Shorbaji, N; Mandirola, H-F; Meher, S. Ethics in Telehealth in IMIA YearBook 2020.
- Publication: Are Clinical Decision Support Systems compatible with patient-centred care? RAJPUT, Vije Kumar; DOWIE, Jack; KALTOFT, Mette Kjer; (2020). Studies in health technology and informatics.

Shashi Gogia gogia7@gmail.com

- Besides launch of the book and its active promotion as a formal IMIA activity, participated in the following activities related to telehealth over the last 12 months.
- Provided comments contributing to India's Telemedicine Practice Guidelines (release in March 2020 and upcoming Personal Data Protection bill
- Helped create the actual modules of a training program for widespread understanding and thereby adoption of the telemedicine Practice guidelines among the medical community as well as health workers
- Webinars related to telehealth and its practice organized in partnership with HIMSS India chapter, Telemedicine Society of India, Indian Medical Students Network, as well as of others
- SATHI (www.sathi.org) - of which I am president is rolling out programs for adoption of use of telehealth in the states of Punjab and Maharashtra in India

Kleber Araujo, klebersaraujo@gmail.com ,

- Participated in a webconference presenting to RUTE's members (national Telemedicine University Network - Brazil) that over Ten Thousands Teleconsultations had been held by healthcare professionals at IMIP - Instituto de Medicina Integral Prof. Fernando Figueira during the pandemics", Sep 2020

Magdala de Araújo Novaes magdala.novaes@nutes.ufpe.br

- Full Professor of Medical Informatics at Federal University of Pernambuco (UFPE) in Brazil. Coordinator of the Telehealth Center of UFPE and Chief of Digital Health Department of the Clinics Hospital
- Fellow (2020) da International Academy of Health Sciences Informatics (IAHSI)
- Co-editor of the book Fundamentals of Telemedicine and Telehealth (IMIA WG)
- Member of the
 - Digital Health Group of the National Education and Research Network (RNP);
 - Brazilian Association of Telemedicine and Telehealth (ABTms)
 - Brazilian Society for Health Informatics;
 - Committee for Research, Development and Innovation of the state of Pernambuco (2020)
- Is currently leading as a Principal Investigator (PI) the following projects at the Federal University of Pernambuco:
 - Telediagnosis in Radiology, Dermatology and Ophthalmology (RedeNUTES). This project aims to provide complementary exams (dermatoscopy, retinography, x-ray, etc.) for vulnerable populations in the state of Pernambuco. It is part of a national strategy supported by the Ministry of Health of Brazil for the realization of 18 thousand telediagnosics and field actions in municipalities in the country area of the state.
 - Clinical telemonitoring to deal with influenza and COVID-19 syndromes. Supported by the Ministry of Education of Brazil and UFPE. Provision of telehealth services and assessment of their impact on early contingency measures for COVID-19 in the Unified Health System (SUS) in Pernambuco. Between April and October 2020, more than 8

thousand virtual consultations were carried out, with teleconsultations by video and tele-orientations by chat with volunteer health professionals and students (doctors, nurses, psychologists, nutritionists, etc.).

- Chair of the Special Interest Group (SIG) in Telehealth Research at the University Telemedicine Network (RUTE) / RNP, which conducts several webinars with national and international speakers.
- Speaker on webinars and conferences related to digital health and telemedicine.
- Publication related to telehealth:
 - Alves, D. S.; Times, V. C.; Silva, E. M. A.; Melo, P. S. A.; Novaes, M. A. Advances in obstetric telemonitoring: a systematic review. International Journal of Medical Informatics, v. 134, p. 104004, 2020.

Gumindu Kulatunga, (gumindu@gmail.com, kulatunga.ggak2017@pgim.cmb.ac.lk)

- Team member in developing guidelines for Sri Lankan Telehealth practices and streamline services in the COVID pandemic management. (March 2020)
- Team member in initiating a digital health innovative laboratory at faculty of Medicine, University of Colombo. First project is related to Telehealth.
- Professional development of medical doctors on use of Telehealth in Sri Lanka through delivering lectures at postgraduate institute of medicine, University of Colombo.

Scientific Communications-

- Publication: Ethics in telehealth: comparison between guidelines and field experience – the case for learning health systems. Kuziemy, C; Hunter, I; Gogia, B; Iyenger, S; Kulatunga, G; Rajput, V; Subbian, V; John, O; Kleber, A; Basu, B; Florez-Arango, J; Al-Shorbaji, N; Mandirola, H-F; Meher, S. Ethics in Telehealth in IMIA YearBook 2020. <https://pubmed.ncbi.nlm.nih.gov/32303097/>
- News letter: 'Impact of Telemedicine as a digital health service during and after COVID-19'– July Newsletter of the Sri Lanka Medical Association, Sri Lanka. . <https://slma.lk/newsletter/>
- Won an APAMI Bursary 2020 in the 11th Biennial Conference of the Asia-Pacific Association for Medical Informatics: Hamamatsu, Japan. November 2020 and will be presenting on Telehealth practices in Sri Lanka.

Dr Sheila John - sheilajohn999@gmail.com

- Oral presentation at the American Telemedicine conference June 22-26. 2020 .Title Validation of computer-aided diagnosis of diabetic retinopathy from retinal photographs of diabetic patients from Tele-camps
- Speaker on a panel exploring Diabetic Radiography & AI: Machine Learning in Ocular Health in the the American Telemedicine conference June 22-26

Inga Hunter - I.Hunter@massey.ac.nz

- Member of the New Zealand Telehealth Leaders Group (NZTLG) that provided guidance and webinars to health providers and consumers during the rapid pivot in New Zealand to telehealth over in person consultations during Covid-19
- Chair of the NZTLG research working group and member of the data standards and primary care working groups
- Board member of the Australasian Institute of Digital health (AIDH)
- Completed research project with the NZ Ministry of Health (MoH) on the use of sensors in the home of older adults to inform interRAI assessments - report published
- Co-principal investigator in a health provider and a consumer survey on telehealth experiences in NZ during Covid-19 lockdown - ongoing

- Academic lead in Barriers to telehealth collaborative project with industry partners, NZTLG and in discussion with the MoH - in development

Jose F Florez-Arango, josefflo@gmail.com

- Developed curricular content to include telemedicine as part of education at Texas A&M University
- Developed a mHealth course for City University of New York
- Invited presentation in the 1st virtual conference of the iberoamerican association of telemedicine and telehealth "Humanizing clinical encounters with technology". Oct 2020
- Publications
 - Torres Silva EA, Uribe S, Smith J, Luna Gomez IF, **Florez-Arango JF**. XML Data and Knowledge- Encoding Structure for a Web-Based and Mobile Antenatal Clinical Decision Support System: Development Study JMIR Form Res 2020;4(10):e17512 DOI: 10.2196/17512 PMID: 33064087 PMCID: 7600017
 - Iyengar MS, Chang O, **Florez-Arango JF**, Taria M, Patel VL. Development and usability of a mobile tool for identification of depression and suicide risk in Fiji. Technol Health Care. 2020 Jun 5. doi: 10.3233/THC-202132. Epub ahead of print. PMID: 32538888.
 - Bozkurt, T. **Flórez-Arango, J.** Levi, M. Telemedicine. In Brunete, G and Nemhauser, J. CDC Yellow Book 2020: Health Information for International Travel. Oxford University Press 2019.
- Chair of the LatinAmericand and Caribbean Chapter at the American Telemedicine Association
- Co-chair Global Health Informatics Working Group AMIA

Oommen John susheel.john@gmail.com

- Principal Investigator : Role of Telehealth in Enhancing Access, ensuring Continuum of care and supporting health systems during COVID-19 pandemic in South East Asia Region: REACH. World Health Organization, South East Asia Regional Office.
- Expert Member, Telehealth Standards Subcommittee, Bureau of Indian Standards
- Expert Member, WHO Digital Health Guidelines Development Group
- Hosted a series of policy consultations on telehealth and virtual care for augmenting health systems capacity during COVID19 pandemic.
- Presentation on role of telehealth for ensuring continuum of care in India, American Telemedicine conference June 22-26. 2020
- Invited contribution to International Telecommunication Union (ITU) newsletter : In India, the opportunities and challenges of telemedicine during COVID-19 - and longer term <https://news.itu.int/in-india-the-opportunities-and-challenges-of-telemedicine-during-covid-19-and-longer-term/>
- Interview : Why telemedicine needs and urgent fix, Mint , August, 2020 <https://www.livemint.com/news/india/why-telemedicine-needs-an-urgent-fix-11598448423482.html>
- Interview : Covid19 patients at home care plans, Bloomberg Quint, June 2020 <https://www.bloomberquint.com/business/private-hospitals-target-mildly-ill-covid-19-patients-with-at-home-care-plan>
- Publication: John O. Video consultations for triage of patients with covid-19. Bmj. 2020 Apr 23;369.

Jai Ganesh Udayasankaran (au.jaiganesh@gmail.com)

- Co-authored module on “Tele-triage” for the Telemedicine Certificate Course launched by the Telemedicine Society of India (TSI) as an online orientation and training program for registered medical practitioners in India
- Contributed for the efforts from Digital Health India Association (DHIIndia) and alliance partners towards establishment of a telemedicine registry in India.
- Contributed comments on ISO/DIS 13131, Health informatics — Telehealth services — Quality planning guidelines on behalf of Bureau of Indian Standards (BIS). Drafting additional use-cases related to teleradiology, telepathology, teleICU and telepractice for inclusion in the above ISO standard in advanced state of development.
- Involved in organising panel discussions on topics “How have digital tools integrated and shaped national epidemic control strategies in Asia and Africa over the past 20 years?” and “Are health crises accelerating the digital transformation of health systems?” during the fifth conference of the Global South e-Health Observatory on the theme "ICTs and health crises: digital tools on the front line of the fight against epidemics" held in Lavour, France on 15 October 2020.
- Conducted a webinar on “Telemedicine Practice Guidelines: Catalytic impact for virtual consultation ecosystem in India” on 21 October 2020 for Asia eHealth Information Network (AeHIN). The webinar had reactors from Cambodia, Lao PDR, Myanmar and Vietnam.
- Involved in advising process improvements, regulatory compliance and application development roadmap for cloud telephony based free telehealth helplines provided by United Care Development Services (UCDS) in partnership with Sri Sathya Sai Seva Organisations in three of the States in India since April 2020.
- Member, Subcommittee on Telehealth Standards, Bureau of Indian Standards (BIS).
- Panel of Judges, 4th Commonwealth Digital Health Awards (CWDHA) organized by the Commonwealth Medical Association, the Commonwealth Centre for Digital Health (CWCDH), the Commonwealth Digital Accelerator, and the Health Informatics Society of Sri Lanka (HISSL).

Publications involving telehealth:

Singh Bhandari S, Joseph SJ, Udayasankaran JG, Konthoujam B, Shoib S, Dutta S. Telepsychiatry: A Feasible Means to Bridge the Demand–Supply Gaps in Mental Health Services During and After the COVID-19 Pandemic: Preliminary Experiences from Sikkim State of India. *Indian Journal of Psychological Medicine*. 2020;42(5):500-502. doi:10.1177/0253717620951282

URL: <https://journals.sagepub.com/doi/full/10.1177/0253717620951282>

Haranath SP, Udayasankaran JG. Tele-intensive care unit networks: A viable means for augmenting critical care capacity in India for the COVID pandemic and beyond. *Apollo Medicine*. 2020;17(3): 209-216. doi:10.4103/am.am_104_20

URL: <https://www.apollomedicine.org/article.asp?issn=0976-0016;year=2020;volume=17;issue=3;spage=209;epage=216;aui=Harath;type=0>

Lee HA, Kung HH, Udayasankaran JG, Kijisanayotin B, B Marcelo A, Chao LR, Hsu CY. An Architecture and Management Platform for Blockchain-Based Personal Health Record Exchange: Development and Usability Study. *J Med Internet Res* 2020;22(6):e16748. DOI: 10.2196/16748

URL: <https://www.jmir.org/2020/6/e16748>

Telemedicine: Hope, Hype, Or Just Jumping Through Hoops? A Perspective For Hospitals
By Senthilnathan Padmanaban, Jai Ganesh Udayasankaran and Sai Praveen Haranath

URL: <https://hcitexpert.com/2020/06/telemedicine-hope-hype-or-just-jumping-through-hoops-a-perspective-for-hospitals-dr-senthil-jai-ganesh-dr-sai-praveen.html/#.X6MT-C8RpQI>

Najeeb Al-Shorbaji (shorbajin@gmail.com)

- Lead the development of “IAHSI Statement to WHO on the Use of Informatics in Pandemic Situations” (<https://imia-medinfo.org/wp/statement-from-the-international-academy-for-health-sciences-informatics-iahsi-the-academy-of-the-international-medical-informatics-association-imia-to-the-director-general-of-the-who-on-the-use/>) which was sent to WHO Director General. The statement called for “adoption of a global policy on virtual care telemedicine practices and technologies for all levels of health authorities and ministries worldwide to utilize, enabling remote triage in support of flattening the curve, and lessening the strain on the health systems to enable better access to the care required”
- Participation as moderator in the MENA Telehealth Majlis, Jordan, 4 June 2020
- Active participation and promoter of telehealth/telemedicine at the following events MENA Telehealth Majlis, Bahrain, 15 May 2020, MENA TELEHEALTH Majlis, Kuwait, 2 July 2020, MENA Telehealth: Practical and clinical considerations for tele-oncology, 3 June 2020
- Jordan has introduced eMED as an Electronic Services Platform to enable patients registered in the electronic health record application (Hakeem) to request their monthly recurring medications electronically aiming to save time and effort by providing this at distance;
- Dr Al-Shorbaji was elected as President of the Middle East and North Africa Health Informatics Association (MENAHA) in September 2019.
- The IMIA Executive Board selected Dr Al-Shorbaji as Vice-President of IMIA for MEDINFO-2021

Kendall Ho (Kendall.Ho@ubc.ca)

- Became Academic Director, Cloud Innovation Centre for Community Health and Wellbeing, University of British Columbia, a collaboration with AWS, January 2020.
- Established a real time virtual support care RTVS network in BC in partnership with BC Ministry of Health, Health Authorities, Rural Coordination Centre of BC. This network of virtual care include clinician-to-clinician and clinician-to-patient support.
<https://www.bcemergencynetwork.ca/real-time-support/>
- Provincial and national Membership in digital health organizations/initiatives:
 - BC Ministry of Health Digital Health Strategy Clinical Leadership Committee
 - BC Academic Health Sciences Network Clinical Trials Advisory Board
 - Health Canada Scientific Advisory Committee in Digital Health Technologies
 - National Research Council Digital Health Research Group Advisory Council
 - Canadian Virtual Health Task Force Education Working Group
 - Government of Canada Expert Panel on COVID-19

- A member of the Society of Academic Emergency Medicine Consensus Conference on telehealth and emergency medicine, 2020.
- International Presentations 2020:
 - Stanford University Online COVID Conference May 15, 2020
 - University of Munster Health Management Lecture June 22, 2020
 - Canada-Taiwan Future HealthCare Forum October 23, 2020
 - Global Cloud Innovation Centres Conference October 29, 2020
 - Oman Society of Emergency Medicine Keynote presentation October 30, 2020
 - University of Munster Medical Class telehealth presentation, November 2, 2020

4. Provide details of the WG/SIG's Outreach - Recruitment and engagement of new members and target communities, publicity, and representation at major events and/or on social media.

The group maintains an active mailing list (Google groups, URL: https://groups.google.com/g/imia_tele/). This list is the primary discussion point. In addition, the group has met over Zoom on several occasions. The proceedings are available in the following URL: <https://hackmd.io/@arinbasu1/june-meeting>

Craig Kuziemsky kuziemskyc@macewan.ca

- Part of an AMIA 2020 panel on Novel Care Delivery Models for Critical Response. My part of the panel looks at collaborative care delivery and the role that telehealth tools can play in supporting it.
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4.a Current number of members: 94

4.b. List of WG/SIG members:

Email address	Name or nick
abhishek@sublimeai.com	Abhishek Gattani
alan.taylor@flinders.edu.au	Alan Taylor
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